

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method in a wireless communication system of providing timing information for a received transmit signal, comprising

providing ~~on a receiving side~~ a training signal relating to a known signal portion of the transmit signal;

scaling the training signal with a variable scaling factor;

quantizing the scaled training signal;

correlating one or more parts of the received transmit signal with the scaled training signal to obtain one or more correlation results; and

determining the timing information on the basis of the correlation results.

2. (currently amended) The method according to claim 1, wherein

~~further comprising varying a~~ the scaling factor to is used to control a correlation complexity of the correlating.

3. (previously presented) The method according to claim 1,

wherein the training signal comprises complex training values and wherein a real part and an imaginary part of each training value are quantized jointly.

4. (original) The method according to claim 3,

wherein, during quantization, the training values are mapped on a predefined set of pure real and pure imaginary values.

5. (original) The method according to claim 4,
wherein the predefined set of pure real and pure imaginary values comprises a value zero.

6. (original) The method according to claim 5,
wherein the scaling factor is varied to adjust the number of training values mapped on the value zero.

7. (previously presented) The method according to claim 1,
wherein the provided timing information is an optimum timing instant for synchronization purposes.

8. (previously presented) The method according to claim 1,
wherein the one or more parts of the receive signal are correlated with the scaled training signal by means of a matched filter.

9.(currently amended) The method according to claim 1,
wherein one or more correlation results in the form of estimated channel impulse responses are obtained.

10. (original) The method according to claim 9,
wherein, for each possible timing instant, a channel impulse response signal power contained in a respective time window of the received transmit signal is determined.

11. (original) The method according to claim 10,
wherein the step of determining the timing information on the basis of the correlation results comprises determining the time window containing the maximum signal power.

12. (previously presented) The method according to claim 10,
wherein based on the maximum signal power a false alarm detection is performed.

13. (original) The method according to claim 12,
wherein the false alarm detection comprises comparing the maximum signal power with a signal power threshold.

14. (currently amended) A computer program product embodied in a tangible medium comprising program code portions for performing the steps of claim 1 when the computer program product is run on a computer system.

15. (original) The computer program product according to claim 14 stored on a computer-readable recording medium.

16. (currently amended) A receiver of a wireless communication system for receiving a transmit signal, comprising

- a unit for providing a training signal relating to a known signal portion of the transmit signal;
- a unit for scaling the training signal with a variable scaling factor;
- a unit for quantizing the scaled training signal;
- a unit for correlating one or more parts of the received transmit signal with the scaled training signal to obtain one or more correlation results; and
- a unit for determining timing information on the basis of the correlation results.

17. (previously presented) The receiver according to claim 16,

wherein the training signal comprises complex training values and wherein the unit for quantizing the scaled training signal jointly quantizes a real part and an imaginary part of each training value.

18. (previously presented) The receiver according to claim 16,

further comprising a unit for detecting a false alarm on the basis of a maximum signal power contained within a time window of the received transmit signal.

19. (New) A receiver of a wireless communication system for receiving a transmit signal, comprising:

means for providing a training signal relating to a known signal portion of the transmit signal;

means for scaling the training signal with a variable scaling factor;

means for quantizing the scaled training signal;

means for correlating one or more parts of the received transmit signal with the scaled training signal to obtain one or more correlation results; and

means for determining timing information on the basis of the correlation results.

20. (new) The receiver according to claim 19,

wherein the training signal comprises complex training values and wherein the means for quantizing the scaled training signal is configured to jointly quantize a real part and an imaginary part of each training value.